

U.S. Antarctic Marine Living Resources Program

2012-2013 Weekly Field Reports

Cape Shirreff, Livingston Island

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Science Report

Seabirds

1. The annual chinstrap penguin nest census was conducted on December 3, approximately one week after the peak clutch initiation date. We counted 4204 nests, 2.5% higher than last year's count of 4099, but 23.2% below the previous 15 year mean of 5473.
2. The annual gentoo penguin nest census was done on December 6, approximately one week after the peak clutch initiation date. We counted 858 nests, 3.4% higher than last year's count of 829 and 4.6% higher than the previous 15 year mean of 818.
3. On December 7, we weighed and measured eggs from a sample of 50 chinstrap penguin nests. These data currently awaits analysis.
4. In just over a week and a half since gentoo penguin peak clutch initiation there has been a 28% failure rate of our 50 reproduction study plot nests. In two weeks since chinstrap penguin peak clutch initiation 77% of the reproduction study nests are incubating full clutches and 10% have failed.
5. We continue to resight and monitor banded known-age penguins. To date, 29 known-aged gentoo penguins have initiated clutches, 69% are incubating partial or full clutches and 31% have failed. Currently 53 known aged chinstrap penguins have initiated clutches, 75% continue to incubate partial or full clutches and 25% have failed.
6. The first banded yearling gentoo was seen on December 6.
7. We continue to monitor brown skua nesting activities. To date, seven pairs are incubating full, 2-egg clutches and two pairs have laid their first egg. Last year we instrumented 20 brown skuas with GLS tags for overwinter migration studies and 19 of these skuas have been resighted on their breeding territories. We plan to start recovering those instruments in the coming week.
8. We had the first sightings of storm petrels this week. We have also seen more and larger groups of cape petrels this season compared to last year. The first Antarctic tern nest with eggs was observed this past week.
9. There are currently 29 kelp gull nests on the island incubating eggs.



Pinnipeds

10. We have completed 22 of the 30 fur seal perinatal female captures we have planned. All females have received VHF radio transmitters for monitoring of attendance behavior and trip duration (CCAMLR Ecosystem Monitoring Program protocol). Ten females, thus far, have also received a time depth recorder for monitoring diving effort for the first six trips to sea. Six of these also have GPS Fast-loc technology for recording at sea location. Our CCAMLR trip duration captures began on 28 November and, as of yesterday, eight females have departed for their first trip to sea. Two have completed their first trip, and no females have begun a second trip yet.
11. Thus far we have had 31 of the 59 seals instrumented with geolocation light sensors (Nano-LATs) last year return from their over-winter migration. Of the 31 we have recovered 25 thus far. The remaining six are either not pregnant (2) or were in locations that were not conducive to recapture. For those we will wait until after the breeding season when captures are easier. We have only been able to download data from two of the 25 recovered.
12. We are monitoring pup growth of our CCAMLR attendance females and have gotten a post-perinatal mass on five of the pups whose mothers have departed sea.
13. At the last census of fur seal study beaches on 9 Dec we recorded a total of 609 adult females and 622 pups (611 live and 11 dead).
14. Thus far 63.4% (104/164) of our tagged female population have returned to Cape Shirreff. The natality rate for returned females thus far is 80.8%. There are, however, still females arriving and pupping and we expect over-winter survival and natality rate to increase.
15. To date we have seen 30 fur seals that were tagged as pups in previous years (many of these have been 13-year-olds from the 1999/00 cohort). No yearlings or 2-year olds have been seen yet. However, we have recorded the arrival of two 3-year olds from 2009 year class.
16. We had a tagged elephant seal arrive that was not tagged at the Cape. It was a juvenile male and also had an alphanumeric clipped into its pelage. We have contacted other researchers that work in the South Shetlands on elephant seals to find out its origin.



Weather

17. This week we had unusually good weather all week with lots of sun and calm weather. Mean wind speed this week was only 7.5 mph with maximum wind gust of 37mph. Winds were predominantly from the west and south all week. This was the first week in which the mean temperature was above 0° C. The mean temperature was only 0.1° C, but the high was 10.7° C. The low was -4.5° C. Total precipitation this week was only 0.1 inches. Sunrise and sunset are now 03:03 and 22:49. Mean daily solar radiation this week was 19,075 watts per sq. meter reflecting the many days of sun this week.

Camp

18. Biologists working around the east side of the Cape witnessed five humpback whales this week just past the Maderas Beach breakwater.
19. The late spring thaw has caused us to have to bring another 55 gallon barrel of frozen water into the main hut to thaw. We are now on our 4th water barrel. Usually by this week we have to put up our rain gutters to collect fresh water but it has been too cold (and dry) so we have not done this yet.
20. On 12/07/12, the camp experienced its first DC power outage at 0000 CLT. Power issues at the camp have been identified, based on various tests and isolation experiments. The batteries in the battery bank are failing and require replacement as soon as possible.
21. We have a young juvenile elephant seal just outside the front entrance to the main hut for a few days now. He greets the crew whenever they arrive and leave.
22. The camp is preparing a Cheetos intervention for penguin biologist Michelle Goh. Michelle has been shamelessly eating all of the camp Cheetos and she must be stopped.



Presented by Mike Goebel and Nicole Cook, with assistance from Jay Wright, Melany Zimmerman, Michelle Goh, and David Vejar at the Cape Shirreff Field Camp, Livingston Island, South Shetland Islands, Antarctica

